

CLAIMS

1. A ceramic heater for a semiconductor-producing/examining device comprising a ceramic substrate and a resistance heating element formed on the ceramic substrate,
5 wherein trimming is performed on said resistance heating element.
2. The ceramic heater for a semiconductor-producing /examining device according to claim 1,
10 wherein said trimming is performed on a part including a side face of the resistance heating element.
3. The ceramic heater for a semiconductor-producing /examining device according to claim 1,
15 wherein said trimming is performed on a surface of the resistance heating element.
4. A ceramic heater for a semiconductor-producing /examining device comprising a ceramic substrate and a resistance heating element formed on the ceramic substrate,
20 wherein said resistance heating element is formed by performing trimming at least a part of a parallel circuit.
- 25 5. A ceramic heater for a semiconductor-producing/examining device comprising a ceramic substrate and resistance heating elements formed on the ceramic substrate,
wherein:
30 said resistance heating elements comprises
resistance heating elements formed in parallel to each other and
a resistance heating element for connection formed between said resistance heating elements formed in parallel, to electrically connect both of them; and
35 trimming is performed to at least a part of said resistance

heating element for connection and said resistance heating elements formed in parallel.

6. A ceramic heater for a semiconductor-producing/examining device comprising a ceramic substrate and a resistance heating element formed on the ceramic substrate,

wherein the thickness of a given area of said resistance heating element is different from the thickness of other part.

10 7. A process for producing a ceramic heater for a semiconductor-producing/examining device,

wherein, after forming a conductor layer on a given area of a surface of a ceramic substrate, a resistance heating element in a given pattern is formed by trimming a part of said conductor 15 layer.

8. The process for producing a ceramic heater for a semiconductor-producing/examining device according to claim 7,

wherein, after forming the conductor layer on the given 20 area of the surface of the ceramic substrate, the resistance heating element in the given pattern is formed by applying a laser ray to said conductor layer and trimming a part thereof.

25 9. A process for producing a ceramic heater for a semiconductor-producing/examining device,

wherein, after obtaining a conductor layer by forming a conductor containing paste layer on a given area of a surface of a ceramic substrate and subsequently conducting heating and firing of it,

30 a resistance heating element in a given pattern is formed by applying a laser ray to said conductor circuit and trimming a part thereof.

35 10. A process for producing a ceramic heater for a semiconductor-producing/examining device,

wherein, after forming a conductor containing paste layer in a heating element pattern on a surface of a ceramic substrate, or after forming a conductor layer in a heating element pattern on a surface of a ceramic substrate,

5 the thickness of a resistance heating element is adjusted by applying a laser ray to said conductor containing paste layer or said conductor layer.

11. A production system used for producing a ceramic heater
10 for a semiconductor-producing/examining device by trimming a conductor layer on a surface of a ceramic substrate to form a resistance heating element pattern,

wherein said production system comprises:

15 a table for placing a ceramic substrate;
a camera for taking an image of a conductor layer;
a memory unit for memorizing data;
a galvano mirror for deflecting a laser ray;
an input unit for inputting data;
an operation unit for calculating data; and
20 a control unit for controlling the table and/or the galvano mirror,

said production system being constituted to perform trimming by the following steps:

25 data on a resistance heating element pattern and/or data for trimming are input from the input portion and stored in the memory unit;

the position of the conductor layer is read by the camera;
a control data for controlling the table and/or the galvano mirror for trimming is calculated on the basis of the obtained
30 data of the position and the pattern and/or the data for trimming at the operation unit, and then the obtained control data is stored in the memory unit; and further

35 the control data is transmitted from the memory unit to the control unit, and then trimming is performed by applying a laser ray to the conductor layer.

12. A production system used for producing a ceramic heater for a semiconductor-producing/examining device by trimming a conductor layer on a surface of a ceramic substrate to form a 5 resistance heating element pattern,

wherein said production system comprises:

a table for placing a ceramic substrate;

a camera for taking an image of a conductor layer;

a memory unit for memorizing data;

10 a galvano mirror for deflecting a laser ray;

an input unit for inputting data;

an operation unit for calculating data;

15 a control unit for controlling the table and/or the galvano mirror, and

a resistivity measuring unit,

said production system being constituted to perform trimming by the following steps:

at least one selected from data on a resistance heating element pattern, data on trimming and data on a desired 20 resistivity is/are input from the input portion and stored in the memory unit;

also, the resistivity of the conductor layer is measured and data of the resistivity is stored in the memory unit;

the position of the conductor layer is read by the camera;

25 a control data for controlling the table and/or the galvano mirror for trimming is calculated on the basis of at least one selected from the data on the resistance heating element pattern, the data on trimming and the data on the desired resistivity, with the obtained data of the position and the resistivity, and 30 then the obtained control data is stored in the memory unit; and further

the control data is transmitted from the memory unit to the control unit, and then trimming is performed by applying a laser ray to the conductor layer.

13. A process of producing a ceramic heater for a semiconductor-producing/examining device,

wherein, after forming a conductor layer on a given area of a surface of a ceramic substrate,

5 a heating element pattern is formed by trimming the conductor layer in a way of performing a grinding treatment.

14. The process of producing a ceramic heater for a semiconductor-producing/examining device according to claim 10 13,

wherein a mask which is formed in a manner that it covers the conductor layer is placed on the surface of the ceramic substrate on which said conductor layer formed.

15 15. The process of producing a ceramic heater for a semiconductor-producing/examining device according to claim 13,

wherein, after forming a resistance heating element in a given pattern on the surface of the ceramic substrate,

20 the thickness of the resistance heating element is adjusted by performing the grinding treatment.